

REMARKS

Claims 1-30 were pending and stand rejected. The independent claims were method claim 1, terminal claim 15, and system claim 27. All claims were rejected as obvious under 35 U.S.C. 103(a) from *Pecen* (U.S. Patent No. 6,714,781) in view of *Ko* (U.S. Application No. 2006/0227754).

The claims are now amended, for example to put them in better form. No new matter is introduced, and all of the amendments are fully supported by the specification as originally filed. After the present amendments, the pending claims are 1-26 and 31-34, the independent claims being claims 1, 15, 31, and 33.

The Cited *Pecen* Reference Does Not Suggest Transitioning From Packet Mode

Applicant respectfully submits that the cited *Pecen* reference is a completely different invention which does not teach or suggest the present claims. *Pecen* does not suggest transitioning from a packet mode to a dual transfer mode, as presently claimed. Instead, *Pecen* discloses transitioning from a circuit-switched mode to dual transfer mode.

Pecen explains at column 3, lines 63-67 that receipt of a packet-switched paging message begins the process of "packet-transfer mode set up" which is not completed until after a packet resource request 132 and a packet uplink assignment 134. Therefore, *Pecen* is clear that there is no "packet transfer mode" and no "dual transfer mode" until after a lengthy signaling sequence that is initiated by a packet-switched paging message. See column 4, lines 44-46 of *Pecen*.

In contrast to *Pecen*, the present independent claims clearly state that a packet associated channel is initially used, and the packet switched resources are maintained when dual transfer mode is assigned.

The *Pecen* reference describes how a Dual Transfer Mode (DTM) capable mobile station (MS), that is engaged in a circuit-switched (CS) connection, can be notified about incoming

downlinked packet-switched (PS) data from the (DTM-capable) network. This functionality is needed in case the MS is in a GPRS Mobility Management (GMM) standby state, which means that the Serving GPRS Support Node (SGSN) knows the MS location on a cell-level. The SGSN is roughly the PS equivalent of the switching center for CS, which is called the Mobile Switching Center (MSC). If the MS is in a GMM standby state, the MS needs to be paged in the routing area (RA) level. For this reason, a Radio Resource (RR) protocol layer (specified for CS operation) message was created, because an MS engaged in a CS connection does not listen to its paging channel (PCH) or packet paging channel (PPCH) that can be sent over the CS radio link.

In response to this (PS) paging (which has been achieved using the new RR message), *Pecen* says that the MS must transmit any valid Logical Link Control Protocol Data Unit (LLC PDU), the LLC being specified for 2G GPRS. When the MS sends this PDU to the network, the SGSN learns in which cell the MS is located. This then enables the SGSN to send the downlink data (i.e. data from the network toward the MS), for which it paged the MS in the first place. This downlink data is sent to the correct Base Station Controller (BSC), i.e. the BSC currently responsible for the MS's (CS) connection. The data from the SGSN to the BSC then causes the BSC to establish a downlink TBF (temporary block flow) for the MS. At this point, the MS then moves from the dedicated mode (having only a CS connection) to dual transfer mode (having both CS and PS connections simultaneously).

Accordingly, *Pecen* describes a method enabling the network to PS-page the MS during CS connection. What happens after that are just existing procedures (i.e. art prior to *Pecen*) that are specified for DTM to establish TBF(s) so that the MS moves to dual transfer mode.

In summary, the message sent by the network in *Pecen* is a RR message and its sole purpose is to enable PS paging during a CS connection. *Pecen* **does not teach or suggest** a transition to dual transfer mode (CS+PS) from packet transfer mode (PS only), enabling seamless circuit-switched data transfer. The *Pecen* reference provides no capability for making such a direct transition possible, and *Pecen* does not suggest anything that might enable such a transition.

The present invention makes it possible for the MS to be able to continue the CS traffic without any interruptions while continuing the PS connection, which *Pecen* neither teaches nor suggests. It is therefore clear that the present application is about a fundamentally distinct issue from what is described by *Pecen*.

Without the present invention, if a packet switched paging message is sent to a mobile station while the mobile station is engaged in a circuit-switched voice call along a traffic channel, the mobile station is unable to receive the packet-switched domain paging message. Therefore, the mobile station is unable to respond to the paging message from the packet domain while in a dedicated mode circuit-switched voice connection.

The present invention relates to a method for receipt of paging messages from a packet switched data domain while a mobile station is in a dedicated mode circuit-switched voice connection. If the base station controller determines that either the mobile station is not capable of operating in dual transfer mode, or that the mobile station is not currently engaged in circuit-switched voice interchange activity, a packet-switched paging message is sent to the mobile station along the paging channel. But if the base station determines both that the mobile station is capable of operating in dual transfer mode, and that the mobile station is currently engaged in circuit-switched voice interchange activity, then the base station controller sends the packet-switched paging message on SAPI 0 (service access point identifier zero) using a main dedicated control channel (DCCH).

Both the present invention and the *Pecen* reference are related to DTM. However, the present invention is related to change from packet transfer mode to dual transfer mode, whereas *Pecen* is related to a change from dedicated mode to dual transfer mode. Packet transfer mode allows only packet session in PS domain. Dedicated mode allows only active CS voice connection. Dual transfer mode allows a mobile station having a single receiver/transmitter to handle a simultaneous GSM voice and packet session.

The problems met are different when changing from packet transfer mode to dual transfer mode as compared to changing from dedicated mode to dual transfer mode. When changing from packet transfer mode to dual transfer mode (as in the present invention), the problem met is

that packet resources shall first be aborted, then an RR connection is established and finally packet resources may be requested.

But when changing from dedicated CS mode to dual transfer mode (as in *Pecen*), the problem met is that while the mobile station is engaged in a circuit-switched voice call along a traffic channel, the mobile station is unable to receive the packet-switched domain paging message, and therefore unable to respond to paging message from the packet domain while in a dedicated mode circuit-switched voice connection.

Pecen says (column 1, lines 9-13) that “the present invention relates to a method for receipt of paging messages from a packet-switched data domain while a mobile station is in a dedicated mode circuit-switched voice connection.” *Pecen* does not disclose anything about a change from packet transfer mode to dual transfer mode.

The first feature in present claim 1 has not been disclosed in *Pecen*. In the first feature, it says that “using a packet associated control channel to convey a radio link control or multiple access control message”. But *Pecen* does not disclose to use “a packet associated control” channel to convey anything at all.

CONCLUSION

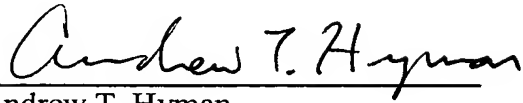
Early allowance of the independent claims (and the pending claims depending therefrom) is earnestly solicited. Applicant would be grateful if the Examiner would please contact Applicant’s attorney by telephone if the Examiner detects anything in the pending claims that might hinder allowance.

PATENT
10/802,407
Attorney Docket No. 944-008.003

Respectfully submitted,

Dated: January 5, 2009

WARE, FRESSOLA, VAN DER
SLUYS & ADOLPHSON LLP
Building Five, Bradford Green
755 Main Street, P.O. Box 224
Monroe, CT 06468
Telephone: (203) 261-1234
Facsimile: (203) 261-5676
USPTO Customer No. 004955


Andrew T. Hyman
Attorney for Applicant
Registration No. 45,858